

WHAT IS CLAIMED IS:

1. A process for producing a printed wiring board-forming sheet comprising placing an insulating resin sheet with or without a conductive material sheet on at least one surface of the resin sheet, and a conductive metal sheet having a thickness the same as or larger than the resin sheet in this order on a die hole provided in a metal mold; and

punching the resin sheet and the conductive metal sheet with a punch in such a way that a chip of the conductive metal to be formed by the punch is inserted and remains in the through hole formed in the resin sheet by the punch.

2. A process for producing a printed wiring board-forming sheet comprising placing an insulating resin sheet with or without a conductive material sheet on at least one surface of the resin sheet having a through hole, and a conductive metal sheet having a thickness the same as or larger than the resin sheet in this order on a die hole provided in a metal mold; and

punching the resin sheet and the conductive metal sheet with a punch of substantially the same size as the

through hole and set over the position corresponding to the hole in such a way that a chip of the conductive metal to be formed by the punch is inserted and remains in the through hole.

3. A multi-layered printed wiring board comprising plural printed wiring boards laminated through insulating adhesive layers and press-bonded together, wherein each of the printed wiring boards comprises an insulating resin sheet having a wiring pattern formed on at least one surface thereof and a conductive metal filled in a through hole of the resin sheet, said conductive metal having such a protrusion at one or both ends thereof that passes through the hole and protrudes through the insulating adhesive layer from the aligned surface of the insulating resin sheet and the wiring pattern to connect the wiring pattern electrically with other wiring patterns of adjacent printed wiring boards.

4. The process for producing the multi-layered printed wiring board as claimed in claim 3, comprising laminating a plurality of printed wiring boards comprising an insulating resin sheet having a wiring pattern formed on at least one surface thereof and a conductive metal filled

in a through hole of the resin sheet, said conductive metal having a protrusion at one or both ends thereof through insulating adhesive layers; and

press-bonding the printed wiring boards and adhesive layers together to allow the protrusion of the conductive metal passing through the hole and the insulating adhesive layer from the aligned surface of the insulating resin sheet and the wiring pattern to connect the wiring pattern electrically with other wiring patterns of adjacent printed wiring boards.

5. A printed wiring board-forming sheet comprising an insulating resin sheet, wherein the insulating resin sheet is made of at least one material selected from the group consisting of polyimide, polyester, polypropylene, polyphenylene sulfide, polyvinylidene chloride, ethylene-vinyl alcohol copolymer, and bismaleimide triazine (BT) resin, having a through hole inserted and filled with a conductive metal chip of substantially the same shape as the hole, wherein the conductive metal chip is formed by punching at least one conductive metal sheet selected from the group consisting of a solder sheet, a solder-plated metal sheet and a copper alloy sheet; and

wherein the conductive metal chip inserted in the through hole of the insulating resin sheet is protruded from at least one surface of the resin sheet.

6. The printed wiring board-forming sheet as claimed in claim 5, wherein the conductive metal chip protruded from at least one surface of the resin sheet is electrically connected with a conductive material or wiring pattern of another printed wiring board.

7. A process for producing the printed wiring board-forming sheet comprising placing an insulating resin sheet with or without a conductive material sheet on at least one surface of the resin sheet, and a conductive metal sheet having a thickness the same as or larger than the resin sheet in this order on a die hole provided in a metal mold; and

punching the resin sheet and conductive metal sheet with a punch in such a way that a chip of the conductive metal to be formed by the punch is inserted and remains in the through hole formed in the resin sheet by the punch;

wherein the insulating resin sheet is made of at least one material selected from the group consisting of

polyimide, polyester, polypropylene, polyphenylene sulfide, polyvinylidene chloride, ethylene-vinyl alcohol copolymer, and bismaleimide triazine (BT) resin, and the conductive metal is at least one conductive metal selected from the group consisting of a solder sheet, a solder-plated metal sheet and a copper alloy sheet.

8. A process for producing the printed wiring board-forming sheet comprising placing an insulating resin sheet with or without a conductive material sheet on at least one surface of the resin sheet having a through hole, and a conductive metal sheet having a thickness the same as or larger than the resin sheet in this order on a die hole provided in a metal mold; and

punching the resin sheet and the conductive metal sheet with a punch of substantially the same size as the through hole and set over the position corresponding to the hole in such a way that a chip of the conductive metal to be formed by the punch is inserted and remains in the through hole;

wherein the insulating resin sheet is made of at least one material selected from the group consisting of polyimide, polyester, polypropylene, polyphenylene sulfide, polyvinylidene chloride, ethylene-vinyl alcohol copolymer,

and bismaleimide triazine (BT) resin, and the conductive metal is at least one conductive metal selected from the group consisting of a solder sheet, a solder-plated metal sheet and a copper alloy sheet.

9. A process for producing a printed wiring board-forming sheet comprising:

(A) placing an insulating resin sheet, optionally including a conductive material sheet on at least one surface of the resin sheet, in a die hole provided in a metal mold;

(B) placing a conductive metal sheet having a thickness the same as or larger than the resin sheet in the die hole; and

(C) punching the resin sheet in (A) and the metal sheet in (B) with a punch in such a way that a chip of the metal sheet in (B) to be formed by the punch is inserted and remains in a through hole formed in the resin sheet by the punch.

10. The process of claim 9, wherein the resin sheet in (A) is made of at least one material selected from the group consisting of polyimide, polyester, polypropylene, polyphenylene sulfide, polyvinylidene chloride, ethylene-

vinyl alcohol copolymer, and bismaleimide triazine (BT) resin.

11. The process of claim 9, wherein the conductive metal sheet in (B) comprises one or more metals selected from the group consisting of a solder sheet, a solder-plated metal sheet and a copper alloy sheet.

12. The process of claim 9, wherein a conductive material layer is formed on at least one surface of the insulating resin sheet and the conductive material layer and the conductive metal chip are connected electrically with each other.